

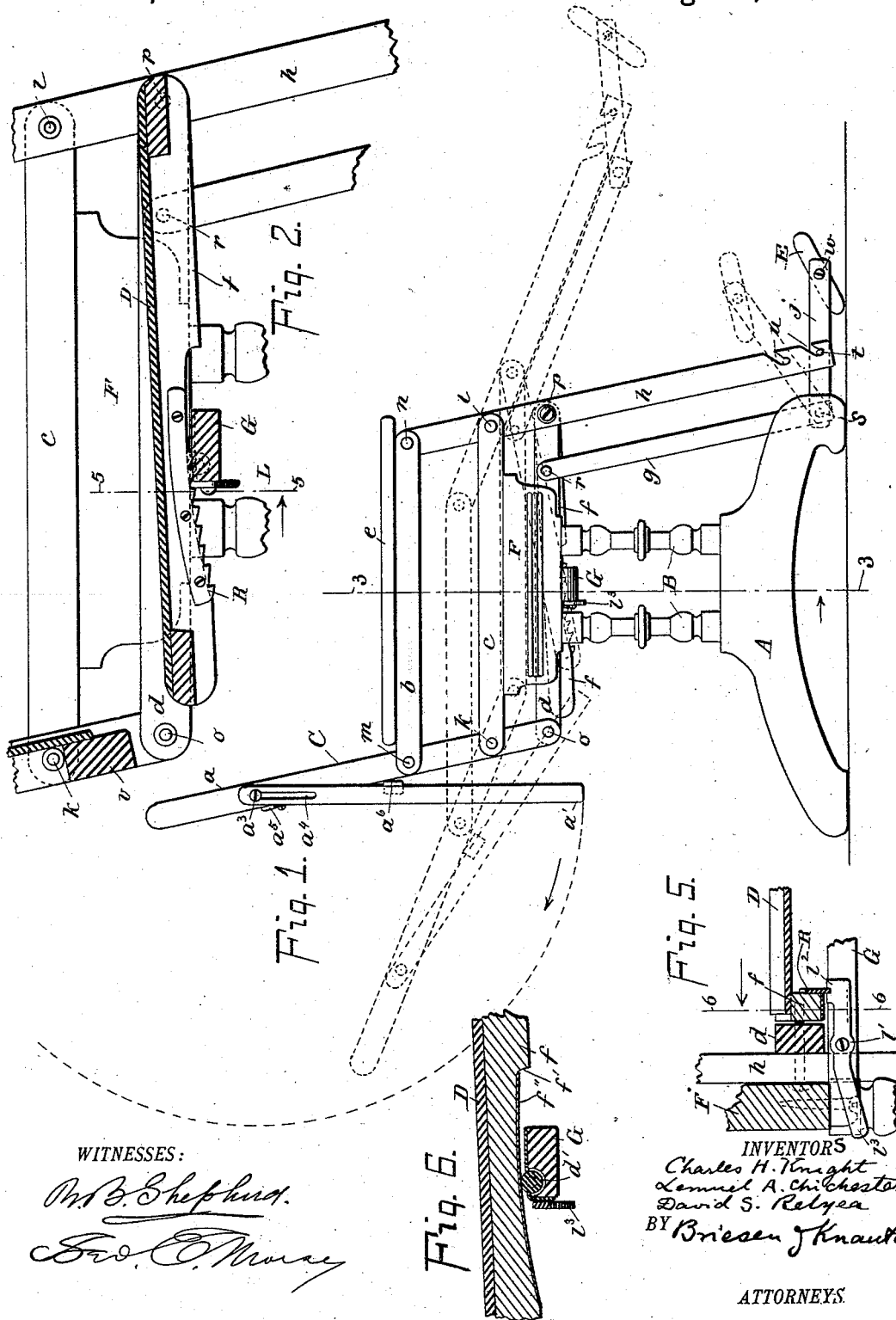
(No Model.)

2 Sheets—Sheet 1.

C. H. KNIGHT, L. A. CHICHESTER & D. S. RELYEA.
ADJUSTABLE CHAIR.

No. 525,051.

Patented Aug. 28, 1894.



WITNESSES:

Wm. B. Shepard.
Edw. C. Murray

Fig. 6.

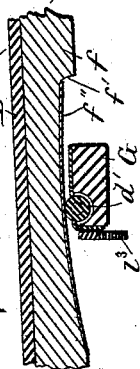
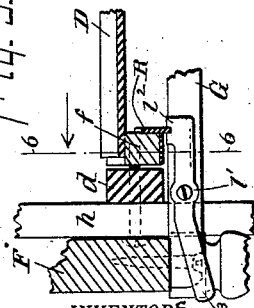


Fig. 5.



INVENTORS

Charles H. Knight
Lemuel A. Chichester
David S. Relyea

BY *Briesen Knautz*

ATTORNEYS.

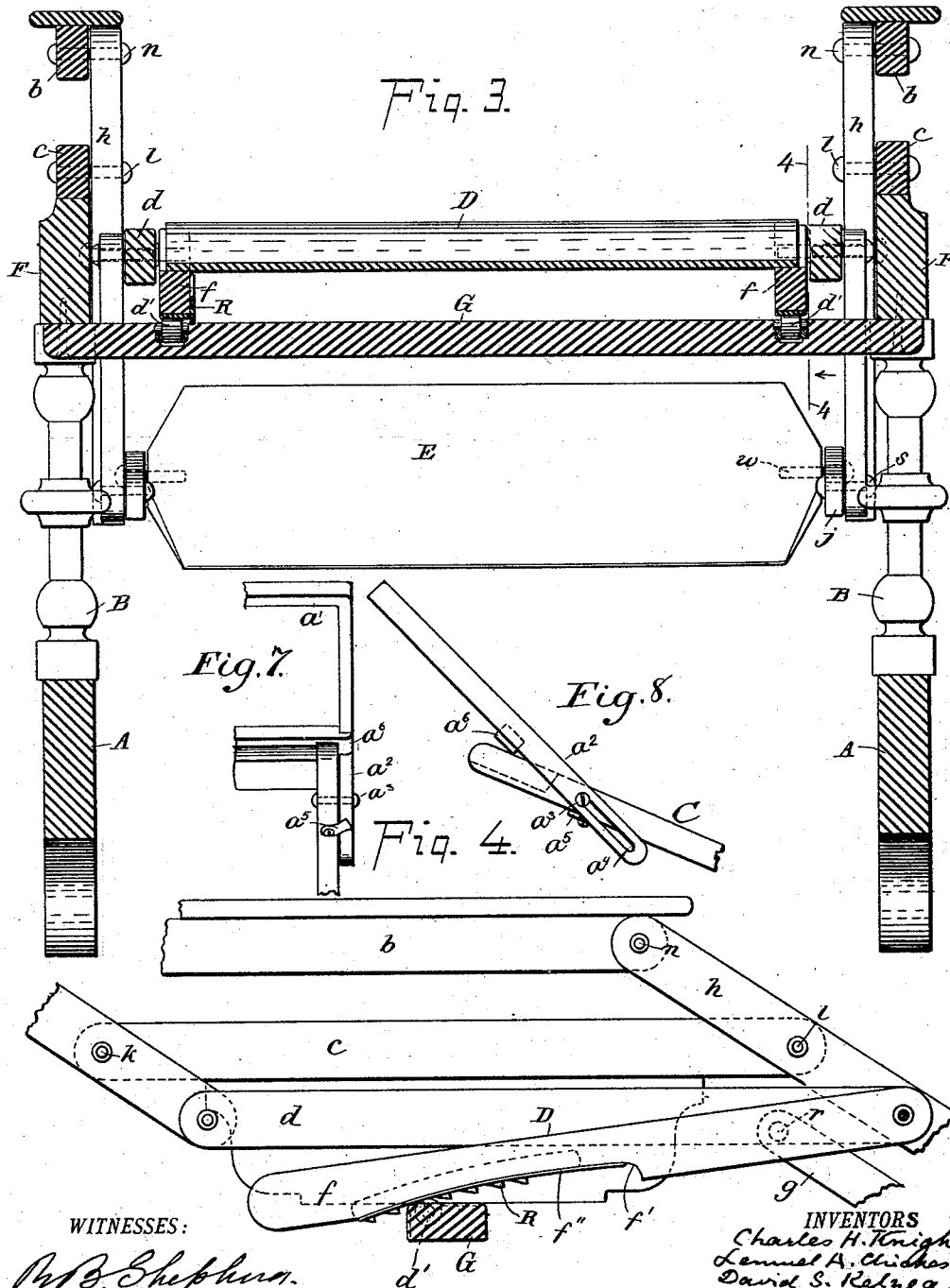
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WITNESSES:

W. B. Shepherd

Ed. C. Masey

INVENTORS

Charles H. Knight
Lemuel A. Chichester
David S. Relyea

BY

Briesen Knaut

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES H. KNIGHT, OF RONDOUT, AND LEMUEL A. CHICHESTER AND DAVID S. RELYEA, OF CHICHESTER, ASSIGNORS TO THE NATIONAL CHAIR MANUFACTURING COMPANY, OF CHICHESTER, NEW YORK.

ADJUSTABLE CHAIR.

SPECIFICATION forming part of Letters Patent No. 525,051, dated August 28, 1894.

Application filed June 14, 1893. Serial No. 477,535. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. KNIGHT, of Rondout, and LEMUEL A. CHICHESTER and DAVID S. RELYEA, of Chichester, Ulster county, State of New York, have invented an Improved Adjustable Chair, of which the following is a specification.

Our invention relates to chairs and has for its object to produce a reclining chair which shall be simple, cheap and not liable to get out of order.

In the drawings forming part hereof: Figure 1 is a side view of a chair showing one form of our invention in an upright position, the inclined position being shown in dotted lines. Fig. 2 is an enlarged longitudinal section of Fig. 1 partly broken away taken on a line midway of the seat. Fig. 3 is an enlarged vertical transverse section of the chair in an inclined position taken on line 3—3 of Fig. 1 looking in the direction of the arrow. Fig. 4 is an enlarged detail sectional view on line 4—4 of Fig. 3 looking in the direction of the arrow. Fig. 5 is a section on line 5—5, Fig. 2 looking in the direction of the arrow showing one means of locking the chair in an adjustable position. Fig. 6 is an enlarged section on line 6—6 of Fig. 5 looking in the direction of the arrow. Figs. 7 and 8 are rear and side views respectively of the head rest showing it in position for use.

Similar letters of reference indicate like parts in the several views.

In the drawings A is the base, B, the up-rights (constituting the frame), C, the back, and D the seat of our improved chair. Upon the up-rights are caps F upon which are mounted rods *c*, to which are jointed a system of parallel rods *a*, *h* by means of pivots *k* *l*. Rods *a* with their cross bars *v* serve to support the back of the chair, rods *h* the front of the seat and the foot-rest. Rods *b*, on which are mounted the chair arms *e*, are pivoted at *m* to the rods *a*, and at *n* to the upper ends of the rods *h*. To the lower ends of the rods *a* are pivoted the rods *d*, at *o* the forward ends of which are pivoted at *p* to the rods *h*. The pivot *p* serves also to support the side rails *f* of the seat D, which rest near their

other ends upon the cross bar G secured to the caps F, as shown in Figs. 2 and 3. Pivoted at *r* to the rods *d* are rods *g*, to the lower ends of which are jointed by pivots *s* rods *j*, to which is swiveled on trunnions *w* the foot-rest E. In the lower ends of the rods *h* are notches *u* to receive the pins *t* in the rods *j*, to support the foot-rest E, and adjust it to suit persons of different height. By means of the two sets of parallel rods *a*, *b*, *c* and *d*; *g* and *h*, and *j*, jointed together as described, the chair may be inclined to any position between the extremes illustrated in Fig. 1.

The chair seat is hung to the system of jointed rods at one end only, preferably the front end, as by the pivot *p*, so as to have the main weight of the seat rest on the cross bar G of the frame. As the system of jointed rods during manipulation of the chair lifts and lowers its connection with the seat, it follows that when said connection is made in front as shown, the front of the seat will be raised the more the back of the chair is inclined, and that the front of the seat will be lowered the more the back of the chair is raised, whereas at all times the support of the seat on the stationary cross-bar remains at about the same level. It follows, therefore, that the seat becomes inclined more and more the more its front end is raised, and that it remains substantially level when its front end is lowered. By this means is accomplished not only a more rigid support for the chair seat, namely, a support directly on the lower framework, but also an increased inclination of chair seat, which is particularly desirable, causing the entire system to fit the human form much more completely than when the chair seat, at all times, remains in the horizontal position.

The chair may be locked against movement when in any position by means of a stop on the seat or on the cross-bar G engaging the side rails of the seat or vice versa. In Figs. 1 to 6 inclusive we have shown a rack R on the seat and a catch L on the cross-bar to engage the rack and lock the chair against movement. As shown in Fig. 5, the latch L is pivoted at *l'* to the cross-bar G, and the

weighted end l^3 serves to hold the end l^2 in engagement with the rack. The side rails D are shown as cut away or recessed at f' to bear on a friction roller d in the cross-bar, and also to increase or decrease the varying inclination of the chair seat during the greater and less inclination of the chair back. This recess f' has a metallic facing f'' or we may dispense with the recess and roller, and face one or both of the rubbing surfaces with metal. To unlock the chair and allow adjustment it is merely necessary to raise the end l^3 of the lever L and disengage the end l^2 from the rack R. It is obvious that we may use any form of stop that will serve the purpose, and we do not wish to limit ourselves to any particular form.

The head-rest (see Figs. 1, 7 and 8) consists of canvas or the like stretched on a rectangular frame a' secured to the chair-back by the bolts a^3 working loosely in the slots a^4 in the prolongation a^2 of the side-bars of the frame. Small latches a^5 serve to hold the head-rest in either of the two positions illustrated. As shown in Fig. 1, the head-rest is out of operation. When it is desired to use the head-rest, the latches a^5 are moved aside and the head-rest swung up in the manner indicated by the dotted line and the arrow in Fig. 1. When the head-rest has been swung to a vertical position, and the lower cross-bar a^6 of the frame has passed over the back of the chair, the head-rest may be pressed down until the bolt a^3 rests against the end of the slot nearest the cross-bar a^6 , when the cross-bar a^6 may be swung against the bars a of the chair-back to hold the rest in the operative position of Figs. 7 and 8. The latches a^5 may now be moved into the position shown in Fig. 7 to hold the parts rigidly in place.

To operate the chair it is merely necessary to disengage the stop and incline the back when the system of rods in virtue of their parallelism will cause the parts to take the positions shown in dotted lines in Fig. 1 and in full lines Figs. 3 and 4. The chair may now be locked in this or any intermediate position by engaging the stop.

It will be seen from the foregoing that we have produced a chair that is simple, cheap and reliable.

What we claim, and desire to secure by Letters Patent, is—

1. In a chair, the combination of a frame, a pivoted chair-back therefor, a pivoted support for a foot-rest, movable side rods (d) connected to said chair-back and to the foot-rest support, a seat hung at one end only upon said side-rods and resting near the other free and disconnected end upon a fixed part of the chair-frame, and means such as a stop to secure the seat in its adjusted position.

2. In a chair, the combination of a stationary frame with an upper cross bar, a seat adapted to bear and move thereon, a pivoted chair back pairs of pivoted rods connected to said seat, a leg and foot rest supported by said rods, arm rests directly connecting one pair of said rods with the chair back, whereby pressure upon either the chair back or foot rest will cause a movement of all the movable parts and the distance between the seat and the foot rest is automatically increased or decreased and a stop for securing all of the movable parts in an adjusted position, substantially as described and for the purposes set forth.

3. In a chair, the combination of a back, a stationary frame, with an upper cross-bar, a movable seat which bears directly on said cross-bar and which is connected with pivotally supported movable side-bars independent thereof, and stop mechanism on said seat and cross-bar for retaining the chair in its adjusted position.

4. In a chair, the combination of the stationary frame with its upper stationary cross-bar, a movable seat bearing on said cross-bar and connected with suitably hung movable side-rods, a foot-rest also connected by rods to said side-rods, whereby the distance between the seat and the foot-rest is automatically increased or decreased, and a latch on the cross-bar to engage a rack and hold all of the movable parts of the chair in an adjusted position.

CHARLES H. KNIGHT.
LEMUEL A. CHICHESTER.
DAVID S. RELYEA.

Witnesses:

HARRY M. TURK,
GEO. E. MORSE.